

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P311150

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-CP187-W2A-U-4000K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P311150
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-75HE-UNV-L82765-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4000K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6437.0 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

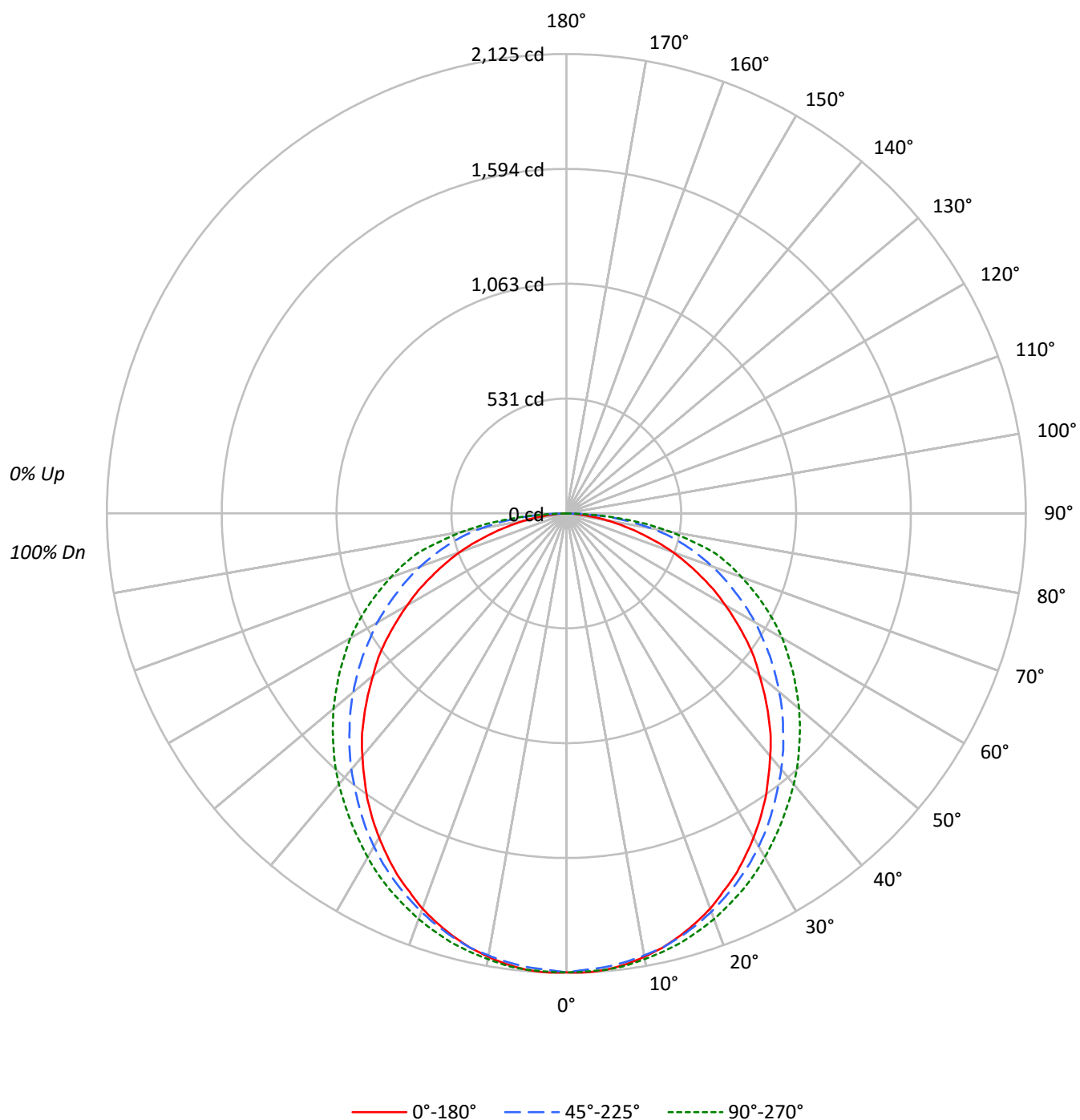
Input Watts (W): 63.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		0
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2856	2856	2856
5°	2861	2844	2861
10°	2845	2836	2860
15°	2820	2826	2862
20°	2786	2807	2859
25°	2743	2787	2857
30°	2691	2764	2854
35°	2638	2736	2855
40°	2577	2716	2873
45°	2516	2698	2897
50°	2441	2691	2942
55°	2380	2695	3001
60°	2287	2718	3104
65°	2183	2747	3216
70°	2067	2831	3394
75°	1843	2953	3708
80°	1572	3127	3790
85°	1121	3100	3626



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.9	3.1
10°-20°	574.5	8.9
20°-30°	867.7	13.5
30°-40°	1045.7	16.2
40°-50°	1097.8	17.1
50°-60°	1027.1	16.0
60°-70°	848.2	13.2
70°-80°	578.0	9.0
80°-90°	197.1	3.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1643.0	25.5
0°-40°	2688.8	41.8
0°-60°	4813.7	74.8
0°-90°	6437.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6437.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2123	2123	2123	2123	2123	
5°	2119	2116	2106	2119	2119	201
15°	2025	2027	2029	2050	2054	571
25°	1847	1856	1877	1914	1924	850
35°	1606	1623	1666	1721	1738	1004
45°	1322	1350	1418	1495	1523	1020
55°	1014	1055	1149	1243	1279	905
65°	686	743	863	972	1010	680
75°	354	436	568	675	713	378
85°	73	143	201	226	235	91
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2122.9	2122.9	2122.9	2122.9	2122.9
2.5°	2125.0	2122.9	2112.2	2122.9	2120.7
5°	2118.6	2116.5	2105.8	2118.6	2118.6
7.5°	2103.6	2103.6	2093.0	2107.9	2110.1
10°	2082.3	2082.3	2075.9	2093.0	2093.0
12.5°	2056.7	2056.7	2056.7	2073.7	2075.9
15°	2024.6	2026.8	2028.9	2050.3	2054.5
17.5°	1986.2	1990.5	1996.9	2022.5	2026.8
20°	1945.6	1949.9	1960.6	1990.5	1996.9
22.5°	1894.3	1905.0	1920.0	1954.1	1960.6
25°	1847.4	1855.9	1877.3	1913.6	1924.2
27.5°	1789.7	1802.5	1830.3	1868.7	1883.7
30°	1732.0	1744.9	1779.0	1823.9	1836.7
32.5°	1670.1	1689.3	1725.6	1772.6	1787.6
35°	1606.0	1623.1	1665.8	1721.4	1738.4
37.5°	1535.6	1559.0	1606.0	1665.8	1687.2
40°	1467.2	1492.8	1546.2	1610.3	1635.9
42.5°	1398.9	1424.5	1484.3	1556.9	1582.5
45°	1322.0	1349.8	1418.1	1495.0	1522.7
47.5°	1245.1	1279.3	1354.0	1435.2	1465.1
50°	1166.1	1204.5	1285.7	1371.1	1405.3
52.5°	1095.6	1131.9	1217.3	1309.2	1341.2
55°	1014.4	1055.0	1149.0	1243.0	1279.3
57.5°	931.2	976.0	1076.4	1178.9	1215.2
60°	850.0	899.1	1010.2	1112.7	1153.3
62.5°	771.0	820.1	935.4	1042.2	1082.8
65°	685.6	743.2	862.8	971.7	1010.2
67.5°	604.4	666.3	792.3	899.1	937.6
70°	525.4	585.2	719.7	824.4	862.8
72.5°	440.0	508.3	642.8	751.8	792.3
75°	354.5	435.7	568.1	674.9	713.3
77.5°	275.5	358.8	491.2	578.8	598.0
80°	202.9	288.3	403.6	465.6	489.1
82.5°	130.3	215.7	307.5	352.4	371.6
85°	72.6	143.1	200.8	226.4	234.9
87.5°	29.9	61.9	81.2	91.8	91.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)